

REMARKS

Claims 1-7, 9-26, and 28-42 are pending. The independent claims are claims 1, 18, 33, 39, 41, and 42. These claims are all rejected as being obvious under 35 U.S.C. 103(a) from *Wang* (U.S. Patent No. 5,918,184) in view of a new reference: *Gilhousen* (U.S. Patent No. 6,157,668).

Brief Summary of the Present Invention

In a wireless telephone system, a mobile user will frequently move from one cell to another. Suppose the mobile user is communicating via a first base station, and there is a nearby second base station that uses an adjacent frequency which is interfering with the communication between the user and the first base station. The second base station is part of a separate network, so the user does not have the option of switching over to the second base station. The present invention provides an improved way for the mobile phone to decide when to perform an interfrequency handover (HO) to another frequency, so that the user can continue to communicate via the first base station, but without suffering from the adjacent frequency interference from the second base station. This HO decision is made by measuring the relationship between adjacent channel power and the user's own channel power. According to the present claimed invention, this measurement is accomplished indirectly, by comparing the power before and after processing by a digital pulse shaping filter.

The Two References Do Not Render the Present Invention Obvious

Wang discloses a method for handing off a mobile device from one base station to another, instead of the present invention's interfrequency handover that uses a single base station. The Office Action now also cites *Gilhousen*, which discloses a "softer handoff" between sectors of a single base station having multiple independent antennas for multiple respective sectors (column 2, lines 61-67). Thus, *Wang* is directed at escaping interference by handing off to a different base station (column 5, lines 20-64), whereas *Gilhousen* is directed at

reducing interference that interferes with other mobiles (column 5, lines 47-48) by reducing transmission power (column 6, lines 7-23). Neither of these two references is directed at escaping interference by changing the frequency of communication with a single base station.

However, in order to further clarify the present invention, and expedite prosecution, Applicant now amends the claims without prejudice to emphasize an important feature of the invention. As explained in the first wherein clause of claim 1, a great advantage of the present invention is that the whole method can be performed using the communication channel for receiving and transmitting data. There is no need for a supervisory audio tone signal (SAT) as in *Wang*.

Thus, the present independent claims are now amended to further explain that the claimed power ratio is a ratio of adjacent channel power to communication channel power, calculated as follows: the communication channel power is given by the magnitude of the filtered signal, whereas the adjacent channel power is calculated as a function of *both* the magnitude of the filtered signal and the magnitude of the received signal. This feature of the invention is explained at page 15 of the application, where it is stated at lines 19-22 that the adjacent channel power is calculated given the power P_{own} of signal 647 and also the power P_{in} of signal 640. This technique allows the power ratio to be calculated without any supervisory audio tone (SAT), and without interfering with data communication.

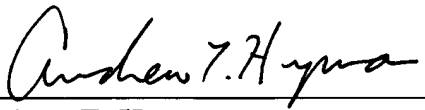
CONCLUSION

Because the cited references do not teach or suggest critical elements of the present amended independent claims, it is respectfully submitted that the present claims are novel and patentable. Early allowance of claims 1-42 is earnestly solicited. Applicant would be grateful if the Examiner would please contact Applicant's attorney by telephone if the Examiner detects anything in the present response that might hinder a speedy allowance.

Respectfully submitted,

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WARE, FRESSOLA, VAN DER
SLUYS & ADOLPHSON LLP
Building Five, Bradford Green
755 Main Street, P.O. Box 224
Monroe, CT 06468
Telephone: (203) 261-1234
Facsimile: (203) 261-5676
USPTO Customer No. 004955



Andrew T. Hyman
Attorney for Applicant
Registration No. 45,858